IN THE CLAIMS:

Claim 1 (Previously Presented): A method of controlling rock drilling, the method comprising:

drilling rock with a rock drilling apparatus including a carrier, a feeding beam, a rock drill movable with respect to the feeding beam, and a control unit for controlling the rock drilling,

providing a memory of the control unit with default settings for drilling,

measuring an operation of the apparatus during drilling, and

adjusting at least one operating parameter of drilling to accomplish a desired control operation, said adjusting step including:

providing an operating system of the control unit with at least two simultaneously active control modes with different control strategies, each control mode determining at least one criterion to be measured during drilling, a threshold value for a measurement result, and at least one adjustable operating parameter,

prioritizing one control mode over the other control modes, and

calculating, based on the measurement results, control values for the operating parameters to be adjusted in the control unit in order to automatically control the drilling such that the control strategy of the prioritized control mode is weighted relative to the other control modes.

Claim 2 (Original): A method according to claim 1, comprising:

providing the control unit with a user interface,

arranging an operating area of the shape of a plane geometrical polygon in the user interface,

selecting the operating point of the control by moving a control cursor in the operating area,

placing one control mode in each corner of the operating area, and

calculating a weighting coefficient for each control mode by means of the distance between the operating point and the corners.

Claim 3 (Previously Presented): A control system for a rock drilling apparatus comprising:

a carrier,

a feeding beam,

a rock drill movable with respect to the feeding beam,

a control unit provided with a user interface for controlling the drilling,

at least one sensor for measuring drilling operation,

and an operating system for the control unit, wherein the operating system is provided with at least two simultaneously active preformed control modes with different control strategies, and wherein each control mode determines at least one criterion to be measured during the drilling, a threshold value for a measurement result, and at least one adjustable operating parameter, wherein one control mode can be prioritized over the other control modes, and

the control unit is arranged to automatically adjust, based on the measurement results, the operating parameters determined by the control modes such that the drilling result according to the prioritized control mode is weighted over the other control modes.

Claim 4 (Previously Presented): A control system according to claim 3,

wherein the user interface of the control unit includes an operating area of the shape of a plane geometrical polygon,

one control mode is placed in each corner of the polygon,

the user interface includes a control cursor whose location in the operating area is arranged to represent the currently selected operating point of the control, and

the control unit is arranged to calculate the weighting of each control mode depending on the distance from the operating point to the corners of the polygon.

Claim 5 (Previously Presented): A control system according to claim 4, wherein the operating system includes a triangular operating area.

Claim 6 (Previously Presented): A control system according to claim 5, wherein the first corner of the triangular operating area is provided with a control mode optimizing the penetration rate of the drilling,

the second corner of the triangle is provided with a control mode optimizing the straightness of the hole to be drilled, and the third corner of the triangle is provided with a control mode optimizing the service life of the drilling equipment.

Claim 7 (Previously Presented): A control system according to claim 3, wherein the control unit includes a graphical user interface.

Claim 8 (New): A method of controlling rock drilling, the method comprising:

drilling rock with a rock drilling apparatus including a carrier, a feeding beam, a rock drill movable with respect to the feeding beam, and a control unit for controlling the rock drilling,

providing a memory of the control unit with default settings for drilling,

measuring an operation of the apparatus during drilling, and

adjusting at least one operating parameter of drilling to accomplish a desired control operation, said adjusting step including:

providing an operating system of the control unit with at least two simultaneously active control modes with different control strategies, each control mode determining at least one criterion to be measured during drilling, a threshold value for a measurement result, and at least one adjustable operating parameter, the at least two simultaneously active control modes being at least two of a control mode to optimize a penetration rate of drilling, a control mode to optimize the straightness of a drill hole, and a control mode to optimize the service life of drilling equipment,

prioritizing one control mode over the other control modes, and

calculating, based on the measurement results, control values for the operating parameters to be adjusted in the control unit in order to automatically control the drilling such

that the control strategy of the prioritized control mode is weighted relative to the other control modes.